AMENDMENTS TO THE CLAIMS

Please amend Claims 1, 3-5, 11, and 13-15 as follows and cancel Claims 2, 10, 12, and 20, without prejudice or disclaimer to continued examination on the merits:

1. (Currently Amended): A method for automatic topology provisioning of an optical network by a network management system, comprising:

automatically mapping a topology of network elements of the network based on network connection information, the network connection information describing interconnections of the network elements;

verifying that the network elements complete a ring formation;

obtaining protection information specifying a protection mechanism to be implemented on the network; and

automatically provisioning at least one of time-division multiplexing group (TDMG) and facility fault protection (FFP) depending upon the protection mechanism to be implemented on the network;

wherein the protection mechanism is selected from the group consisting of bi-directional line switched ring (BLSR) protection mechanism, unidirectional path switched ring (UPSR) protection mechanism, 1:1 protection mechanism and 1+1 linear protection mechanism; and

wherein when the protection mechanism is one of BLSR and UPSR, the provisioning comprises TDMG provisioning, wherein the TDMG provisioning includes bandwidth provisioning to allow a plurality of bandwidth portions, each bandwidth portion being provisioned with a different protection mechanism.

2. (Canceled)

3. (Currently Amended): The method for automatic topology provisioning of claim [[2]] 1, wherein the protection mechanism is UPSR and the provisioning comprises TDMG provisioning.

4. (Currently Amended): The method for automatic topology provisioning of claim [[2]] 1, wherein the protection mechanism is at least one of 1+1 linear protection and 1:1 linear protection, wherein the provisioning comprises FFP provisioning.

5. (Currently Amended): The method for automatic topology provisioning of claim [[2]] 1, wherein the protection mechanism is BLSR and the provisioning comprises TDMG and FFP provisioning.

6. (Original): The method for automatic topology provisioning of claim 5, wherein the TDMG provisioning includes determining and provisioning a ring map for each network element of the network.

7. (Original): The method for automatic topology provisioning of claim 6, wherein each network element includes at least a primary slot and optionally a secondary slot, wherein the ring map for each network element is determined by traversing the network elements protected by the BLSR protection mechanism from and in the direction of the primary slot.

8. (Original): The method for automatic topology provisioning of claim 6, wherein the ring map is stored by each network element.

9. (Original): The method for automatic topology provisioning of claim 6, wherein the TDMG provisioning includes assigning an identification to each node to facilitate in determining the ring map for each network element.

10. (Canceled)

11. (Currently Amended): A system for automatic topology provisioning of an optical network by a network management system, comprising ~~a processor configured to~~:

a processor operable for:

automatically [[map]] mapping a topology of network elements of the network based on network connection information, the network connection information describing interconnections of the network elements;

~~verify~~ verifying that the network elements complete a ring formation;

~~obtain~~ obtaining protection information that specifies a protection mechanism to be implemented in the network; and

automatically ~~provision~~ provisioning at least one of time-division multiplexing group (TDMG) and facility fault protection (FFP) depending upon the protection mechanism to be implemented on the network;

wherein the protection mechanism is selected from the group consisting of bi-directional line switched ring (BLSR) protection mechanism, unidirectional path switched ring (UPSR) protection mechanism, 1:1 protection mechanism and 1+1 linear protection mechanism; and

wherein when the protection mechanism is one of BLSR and UPSR, the processor performs TDMG provisioning, comprising bandwidth provisioning to allow a plurality of bandwidth portions, each bandwidth portion being provisioned with a different protection mechanism.

12. (Canceled)

13. (Currently Amended): The system for automatic topology provisioning of claim [[12]] 11, wherein when the protection mechanism is UPSR, the processor performs TDMG provisioning.

14. (Currently Amended): The system for automatic topology provisioning of claim [[12]] 11, wherein when the protection mechanism is at least one of 1+1 linear protection and 1:1 linear protection, the processor performs FFP provisioning.

15. (Currently Amended): The system for automatic topology provisioning of claim [[12]] 11, wherein when the protection mechanism is BLSR, the processor performs TDMG and FFP provisioning.

16. (Previously Presented): The system for automatic topology provisioning of claim 15, wherein when the processor performs TDMG provisioning, the processor determines and provisions a ring map for each network element of the network.

17. (Original): The system for automatic topology provisioning of claim 16, wherein each network element includes at least a primary slot and optionally a secondary slot, wherein the processor determines the ring map for each network element by traversing the network elements protected by the BLSR protection mechanism from and in the direction of the primary slot.

18. (Original): The system for automatic topology provisioning of claim 16, wherein the ring map is stored by each network element.

19. (Previously Presented): The system for automatic topology provisioning of claim 16, wherein the processor performs TDMG provisioning by assigning an identification to each node to facilitate in determining the ring map for each network element.

20. (Canceled)